

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	amavidine	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:15
L2	5	amavadine	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:37
L3	250	(562/549).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2006/11/28 08:37
L4	0	("vanadiumorV").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2006/11/28 08:37
L5	2760806	vanadium or V	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:37
L6	116	I3 and I5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:37
L7	160846	methane or CH4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:38
L8	48	I6 and I7	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:38
L9	12031	trifluoromethanesulfonic	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:39
L10	0	I8 and I9	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:39
L11	49227	methanesulfonic	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 08:39

## EAST Search History

L12	0	I8 and I11	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 09:01
L13	2	"5281752".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/11/28 09:01

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*  
SESSION RESUMED IN FILE 'CAPLUS' AT 08:44:10 ON 28 NOV 2006  
FILE 'CAPLUS' ENTERED AT 08:44:10 ON 28 NOV 2006  
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.60	272.58
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-6.00
 => file caplus		
COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.60	272.58
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-6.00

FILE 'CAPLUS' ENTERED AT 08:44:19 ON 28 NOV 2006  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 28 Nov 2006 VOL 145 ISS 23  
FILE LAST UPDATED: 27 Nov 2006 (20061127/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.  
They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> vanadium or V  
160185 VANADIUM  
31 VANADIUMS  
160189 VANADIUM  
(VANADIUM OR VANADIUMS)  
1089725 V  
L10 1166751 VANADIUM OR V

```

=> methane
    172705 METHANE
        3386 METHANES
L11     174125 METHANE
        (METHANE OR METHANES)

=> L10(1)l11
L12     3100 L10(L)L11

=> acetic
    230756 ACETIC
        22 ACETICS
L13     230765 ACETIC
        (ACETIC OR ACETICS)

=> l12(1)l13
L14     60 L12(L)L13

=> trifluoromethanesulfonic
L15     4900 TRIFLUOROMETHANESULFONIC

=> l14(1)l15
L16     0 L14(L)L15

=> logofdf hold
    0 LOGOFDF
    40188 HOLD
    27204 HOLDS
    66370 HOLD
        (HOLD OR HOLDS)
L17     0 LOGOFDF HOLD
        (LOGOFDF (W) HOLD)

=> trifluoroacetic
L18     16772 TRIFLUOROACETIC

=> l14(1)l18
L19     3 L14(L)L18

=> d 119 1-3 ti fbib abs

L19 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN
TI Procedure for the catalytic oxidation of methane into methanol from methyl
carboxylate esters which are then hydrolyzed
AN 2004:679953 CAPLUS
DN 141:175861
TI Procedure for the catalytic oxidation of methane into methanol from methyl
carboxylate esters which are then hydrolyzed
IN Wanninger, Klaus; Reimer, Alfred; Schmidt, Friedrich; Maletz, Gerd;
Strassner, Thomas; Muehlhofer, Michael; Herrmann, Wolfgang
PA Sued-Chemie AG, Germany
SO Ger. Offen., 5 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1
    PATENT NO.      KIND      DATE      APPLICATION NO.      DATE
    -----      -----      -----      -----
PI  DE 10305377      A1      20040819      DE 2003-10305377      20030210
    WO 2004069784      A1      20040819      WO 2004-EP1215      20040210
    W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG,
        BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR,
        CU, CU, CZ, CZ, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI,

```

FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP,  
 JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR,  
 LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ,  
 NA, NI, NI, NO  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,  
 BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,  
 MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,  
 GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN,  
 GQ, GW, ML, MR, NE, SN, TD, TG

DE 2003-10305377 A 20030210  
 EP 1558557 A1 20050803 EP 2004-709624 20040210  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 DE 2003-10305377 A 20030210  
 WO 2004-EP1215 W 20040210

OS CASREACT 141:175861

AB A procedure for the oxidation from methane to methanol over methanol esters is described, where the oxidation of methane with oxygen or an oxygen-containing gas in the presence of  $\geq 1$  transition metal salts [e.g., Co(OAc)<sub>3</sub> and Mn(OAc)<sub>3</sub>] having a redox potential of  $>0.6$  V. After their formation, the Me esters (e.g., Me trifluoroacetate) are hydrolyzed to methanol. The procedure is characterized by the fact that the oxidation is conducted in a mixture of trifluoroacetic acid and a carboxylic anhydride (e.g., trifluoromethylacetic anhydride), or in a mixture of trifluoroacetic acid and a non-fluorinated carboxylic acid (e.g., acetic acid) at  $>80^\circ$ .

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN  
 TI Vanadium complex catalysts for acetic acid synthesis from methane  
 AN 2004:368982 CAPLUS  
 DN 140:381361  
 TI Vanadium complex catalysts for acetic acid synthesis from methane  
 IN Pombeiro, Armando; Frausto da Silva, Joao; Fujiwara, Yuzo; Silva, Jose  
 Armando; Reis, Patricia M.; Palavra, Antonio F.  
 PA Instituto Superior Técnico, Port.  
 SO PCT Int. Appl., 11 pp.

CODEN: PIXXD2  
 DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004037416	A2	20040506	WO 2003-PT15	20031015
	WO 2004037416	A3	20040812		
	WO 2004037416	B1	20041007		
		W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW		
		RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	PT 2002-102859	A 20021023
PT 102859		A	20040430	PT 2002-102859	20021023
PT 102859		B	20041029		
AU 2003267887		A1	20040513	AU 2003-267887	20031015
				PT 2002-102859	A 20021023
				WO 2003-PT15	W 20031015

EP 1558383	A2	20050803	EP 2003-748820	20031015
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
			PT 2002-102859	A 20021023
			WO 2003-PT15	W 20031015
CN 1726082	A	20060125	CN 2003-80106111	20031015
			PT 2002-102859	A 20021023
			WO 2003-PT15	W 20031015
JP 2006503693	T2	20060202	JP 2004-546574	20031015
			PT 2002-102859	A 20021023
			WO 2003-PT15	W 20031015
US 2006155145	A1	20060713	US 2005-532387	20051104
			PT 2002-102859	A 20021023
			WO 2003-PT15	W 20031015

AB Complexes of vanadium (IV or V) with bi- or poly-dentate ligands coordinated by nitrogen and oxygen (N,O) or by oxygen and oxygen (O,O) atoms, namely derivs. of aminoalcs., (hydroxyimino)dicarboxylic acids, hydroxypyranones, trifluoroacetic acid, triflic acid, or inorg. acid, can be used as catalysts for the direct single-pot conversion, under mild conditions, of methane to acetic acid, either in the absence or in the presence of carbon monoxide, and in the presence of a peroxodisulfate salt (K<sub>2</sub>S<sub>2</sub>O<sub>8</sub>), in trifluoroacetic acid (CF<sub>3</sub>COOH). Thus, VO[N(CH<sub>2</sub>CH<sub>2</sub>O)<sub>3</sub>] was used to catalyze the synthesis of acetic acid from methane.

L19 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN  
 TI Single-pot conversion of methane into acetic acid in the absence of CO and with vanadium catalysts such as amavadine  
 AN 2003:191582 CAPLUS  
 DN 138:239674  
 TI Single-pot conversion of methane into acetic acid in the absence of CO and with vanadium catalysts such as amavadine  
 AU Reis, Patricia M.; Silva, Jose A. L.; Palavra, Antonio F.; Frausto da Silva, Joao J. R.; Kitamura, Tsugio; Fujiwara, Yuzo; Pombeiro, Armando J. L.  
 CS Centro de Quimica Estrutural, Complexo I Instituto Superior Tecnico, Lisbon, 1049-001, Port.  
 SO Angewandte Chemie, International Edition (2003), 42(7), 821-823  
 CODEN: ACIEF5; ISSN: 1433-7851  
 PB Wiley-VCH Verlag GmbH & Co. KGaA  
 DT Journal  
 LA English  
 AB Pressurized CH<sub>4</sub> was converted directly in a one-pot reaction into acetic acid in the absence of CO by V catalysts. As auxiliary chems. K<sub>2</sub>S<sub>2</sub>O<sub>8</sub> was used as oxidant and CF<sub>3</sub>COOH as solvent.  
 RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 06:14:28 ON 28 NOV 2006)

FILE 'REGISTRY' ENTERED AT 06:14:44 ON 28 NOV 2006

L1 STRUCTURE UPLOADED  
 L2 2 SEARCH L1 SSS SAM

FILE 'CAPLUS' ENTERED AT 06:20:14 ON 28 NOV 2006

L3 2 L2

FILE 'REGISTRY' ENTERED AT 06:22:26 ON 28 NOV 2006

L4 37 SEARCH L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 06:24:05 ON 28 NOV 2006  
L5 22 L4  
SAVE TEMP L5 MALONTES/A  
S 87353-40-0/REG#

FILE 'REGISTRY' ENTERED AT 06:29:53 ON 28 NOV 2006  
L6 1 S 87353-40-0/RN

FILE 'CAPLUS' ENTERED AT 06:29:54 ON 28 NOV 2006  
L7 4 S L6

FILE 'REGISTRY' ENTERED AT 06:32:44 ON 28 NOV 2006  
SAVE TEMP L4 RAWCOMPND/A

FILE 'REGISTRY' ENTERED AT 06:44:34 ON 28 NOV 2006  
E PROPANEDIOIC ACID, MONO((ACETYLOXY)METHYL) ESTER/CN  
L8 1 E3

FILE 'CAPLUS' ENTERED AT 06:45:57 ON 28 NOV 2006  
L9 1 L8

FILE 'CAPLUS' ENTERED AT 08:44:19 ON 28 NOV 2006  
L10 1166751 VANADIUM OR V  
L11 174125 METHANE  
L12 3100 L10(L)L11  
L13 230765 ACETIC  
L14 60 L12(L)L13  
L15 4900 TRIFLUOROMETHANESULFONIC  
L16 0 L14(L)L15  
L17 0 LOGOFDF HOLD  
L18 16772 TRIFLUOROACETIC  
L19 3 L14(L)L18

=>